

## ABSTRACT OF THE DISCLOSURE

A method for improving the treatment and/or examination of vessel walls through fluid, such as blood, functions by identifying the points in time when the catheter is closest to the vessel wall or farthest from the vessel wall. Identification of this relative location enables  
5 improved spectral readings in larger vessels. In short, instead of trying to overcome motion (*e.g.*, by centering the catheter), this approach takes advantage of motion by identify times when the catheter is closer to the vessel wall, in order to gather more useful spectral information or improve the efficacy of the treatment of the vessel walls. In the specific example, the invention is used for near infrared (NIR) spectroscopy. In some embodiments,  
10 the catheter head is designed to induce relative movement between the head and the vessel walls.